Obscurants as a Combat Multiplier

LIEUTENANT COLONEL BILLY WELCH

Combat multipliers are systems that provide an advantage over the enemy when integrated with other combat systems. Two multipliers that most field leaders are familiar with are superior battlefield information and obstacles. Obscurants are also a powerful combat multiplier. Both physical obstacles and obscurants shape the battlefield and deny the enemy access to certain areas, or deny him information.

The sensor capabilities of the U.S. Army exceed those of many forces in the world. We are proud to "own the night." The Army is well equipped with both image intensified (I^2) and thermal sights in large quantities. I^2 sights are so abundantly available that private citizens not only have access to them, but can easily afford them. Any opponent we are likely to face, from a heavy equipped army to the streetfighters in third world areas, is likely to have some sort of I^2 device. When operating in darkness, thermal sensors and I^2 sights are both effective to some extent, but I^2 sights cannot see through fog or man-generated obscurants, and thermal sensors have the advantage.

In order to maintain our overmatch, we must change the conditions when nature does not. One method is to use obscurants to set the stage for our thermal systems. This allows us to see, using thermal sights, while blocking any I^2 night sights. Once we create favorable conditions, our combat leaders can exploit them.

Thermal sights are becoming more and more common, and are now even commercially available in some automobiles. The French, for example, produce some very good thermal sights and have been selling them worldwide. When an opponent has thermal sights, we can block them with our infrared (IR) obscurants. The IR obscurants prevent the enemy from detecting our forces with his thermal sights and limits his knowledge of the battlefield. Even if we cannot see through the IR obscurant, we can still use it to our advantage—when and where we choose—at the decisive place and time. We can use the obscurant screen, either as a deception or a protective screen, for our forces to deny the enemy knowledge. It was not until the mid 1980s, when M1 tanks and Bradleys were fielded, that thermal viewers became common and we could see through smoke. We can use IR obscurants just as we used visual smoke for the many years when we could not see through it.

Our information dominance complements our obscurant capabilities to increase the chance of success on the battlefield. The Army uses unmanned aerial vehicles, helicopters, and remotely placed sensors to gather and to share battlefield awareness among friendly forces. Our forces can be on the near side of the obscurant or inside a protective haze. In this operational environment, we use IR obscurants to block enemy thermal sights and still retain superior battlefield awareness. This can be compared to the Air Force's use of AWACS and sharing situation awareness with the fighting forces even though the fighters cannot "see" the enemy.

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Field Manual 5-102, *Countermobility*, defines an obstacle as "any obstruction that stops, delays, or restricts movement or maneuver. Obstacles can exist naturally, such as a river or a cliff, or can be man-made such as a minefield or tank ditch. *Reinforcing* obstacles are placed on the battlefield through military effort and are designed to strengthen the existing terrain to slow, stop, or channel the enemy."

Moving through an obstacle slows a force, making it more vulnerable to targeting systems. Obscurants cause similar effects. Moving in areas of limited visibility slows and isolates a force, just as terrain limits movement and visibility. Think of obscurants as artificial terrain features designed to affect enemy operations. As with any obstacle, we would use our own fighters to overwatch and maintain awareness of the far side and to attack the enemy as they cross or go around the obstacle. And obscurant obstacles are self-clearing and cause no collateral damage.

Although obstacles do not generally affect helicopters, helicopters are a particular threat that obscurants can address. To see past the obscurants, helicopters must climb, go through, or go around, and a helicopter that is not in ground clutter is vulnerable to targeting systems and weapons. Obscurants can also shield our forces from the surveillance sensors on satellites.

The sequence that antitank systems follow when attacking the enemy is *detect*, *identify*, *acquire*, and *engage*. To avoid being engaged, a unit must

interrupt this sequence. Our M1 tanks can withstand a hit from most antitank systems and still survive. But as our vehicle systems are made more deployable, they get lighter by sacrificing armor. Since lighter vehicles cannot afford to be hit, they must avoid being detected or acquired.

All combat vehicle systems are equipped with smoke grenade launchers for rapid obscuration, but smoke grenades do not prevent detection. They allow vehicles to escape by interrupting the engagement process or, in the case of a mobility kill, allow crews to evacuate a vehicle. Only the generator systems prevent detection. Truly stealthy systems are invisible to all sensors—visible, infrared, radar, and acoustic—but we do not yet have such systems today. What we can do is to block sensors. Our obscurant generators can thwart the many specific frequency ranges that are used by military reconnaissance, surveillance, and target acquisition systems. We can use the mobile capabilities of our generators to protect our combat forces as they advance. These generators can dispense different obscurants to reduce I^2 detection, laser range finders, laser designators, optical systems, or thermal sights, or any combination of these. The United States is the only country that is capable of producing IR obscurants, both on the move and standing still, over small or large areas. We can use our mobile systems just as the Air Force uses specially equipped aircraft called "Wild Weasels" to offer safe entry as they accompany the fighting forces.

The ability to control the environment and set conditions gives the battle commander a distinct advantage. Obscurants can be used to ensure that our forces have the advantage. As always, we must first train with the systems—and in the conditions in which we will fight—so that our units do not fail in combat.

Our current M56 and M58 generators are designed to be as mobile and transportable as the combat forces they support. A task force can move inside the cloud provided by the obscuration platoons. Although this cloud is not like the *Star Trek* Klingon Cloak, it is a major step in that direction.

Lieutenant Colonel Billy Welch has served in various assignments in infantry units acquisition assignments and is currently Product Manager, Obscuration and Decontamination Systems, Soldier and Biological Chemical Command, in Edgewood, Maryland. He is a 1977 ROTC graduate of Oklahoma State University, and holds a master's degree from Boston University.